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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/692,670 | 10/24/2003 | Naveen Bali | 5693P031 | 9973 |
| 48102 7590 04/01/2008 NETWORK APPLIANCE/BLAKELY 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040 | | | | |
| EXAMINER | | | | |
| LAI, MICHAEL C | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2157 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 04/01/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/692,670

Applicant(s)

BALI, NAVEEN

Examiner

MICHAEL C. LAI

Art Unit

2157

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 8-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 21-25, 27-32 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☒ Claim(s) 8-20 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This office action is responsive to communication filed on 10/24/2003.

Claims 1-7 and 21-32 have been examined.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-7, 21-32, drawn to computer-to-computer protocol implementation, classified in class 709, subclass 230.
- II. Claims 8-20, drawn to computer clustering and failover, classified in class 709, subclass 239.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because clustering a plurality of FC node devices to form a failover cluster is not needed for configuring FC node devices to resolve an upper-level address into an address based on the FC protocol. The subcombination has separate utility such as establishing a backup link between the FC node device outside the failover cluster and a second FC node device in the failover cluster.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

A telephone call was made to Ms. Sheryl Holloway on 03/25/2008 to request an oral election to the above restriction requirement. Applicant's representative has elected Group I without traverse over the phone. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-20 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 27-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 27-32 recite the limitation of "computer readable medium..." that is described in paragraph 0043 of original specification as "Examples of computer-readable media include but are not limited to recordable type media such as volatile and non-volatile memory devices...and transmission type media such as digital and analog communication links." As such, the claims cover embodiments directed to transmission, per se. These claims are being rejected as non-statutory as directed to a form of energy rather than a patent-eligible machine, manufacture, process or composition of matter. See MPEP 2106.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 recites the limitation " the high-level protocol " in line 1. There is insufficient antecedent basis for this limitation in the claim. For examination purpose the examiner assume as "the upper-level protocol."

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-6, 21-22, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Latif et al. (US 2003/0091037 A1, hereinafter Latif), and in view of Woodring (US 2002/0191649 A1, hereinafter Woodring).

Regarding claim 1, Latif discloses a method, comprising:

assigning an upper-level address based on an upper-level protocol to a Fibre Channel (FC) node device in a communications system, the FC node device supporting the FC protocol at a base layer [FIG. 11 and para. 0034, "ULP"; para. 0065, "Each switch 235 assigns an IP address, SoIP socket number and Fibre Channel address to each Fibre Channel device when the device performs a fabric login."]; and

configuring each FC node device in the communications system to resolve an upper-level address into an address based on the FC protocol [para. 0065, "Each switch 235 performs address translation between the IP and Fibre Channel address domains."; para. 0067, "each switch maintains a set of locally assigned Fibre Channel addresses which correspond to the globally known IP Address/SolP Port Number pairs defined in the SolP Name Server."].

Latif teaches substantially all the limitation in claim 1, but fails to disclose a **plurality of** upper-level addresses based on an upper-level protocol to be assigned to a Fibre Channel (FC) node device in a communications system. However Woodring teaches a set of N_Ports with a common alias address identifier [para. 0166] and upper layer protocol (including IP, VI) mapping [para. 0120] over FC-FS. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Woodring's teaching into Latif's method for the purpose of allowing FC node devices to be clustered by assigning upper-level alias addresses, thereby providing fail over/fail back capabilities among FC node devices.

Regarding claim 2, Latif further discloses wherein the high-level protocol is a network protocol [para. 0034, IP network].

Regarding claim 3, Latif further discloses wherein the network protocol is the Transmission Control Protocol over the Internet Protocol (TCP/IP), and the upper-level addresses are IP addresses [para. 0035, "TCP"; para. 0065, "IP address"].

Regarding claim 4, Latif further discloses wherein assigning the plurality of upper-level addresses comprises encoding the multiple upper-level addresses within the symbolic name of the FC node device based on a predefined encoding scheme [310 FIG. 15 and para. 0102, "The Fibre Channel and Gigabit Ethernet ports use the same encoding/decoding method (8B/10B)..."].

Regarding claim 5, Latif further discloses wherein the predefined encoding scheme includes using selected bytes the symbolic name field defined in the FC protocol to store the plurality of upper-level addresses [para. 0102, "The Fibre Channel and Gigabit Ethernet ports use the same encoding/decoding method (8B/10B)..."].

Regarding claim 6, Latif further discloses wherein configuring each FC node device comprises configuring the FC node device to send a RFT_ID message to a name server for a FC fabric that enables communications between the FC node devices, and to send a RSPN_ID message to the name server [FIG. 7 and paras. 0093-0094, registration].

Regarding claim 21, Latif discloses a storage device [115 or 120 FIG. 3], comprising:

a processor [this is inherent];

a memory coupled to the processor, the memory storing instructions which when executed by the processor cause the storage device to perform a method comprising:

receiving input of an IP addresses to be associated with a Fibre Channel (FC) N_Port of the storage device [FIG. 11 and para. 0034, "ULP"; para. 0065, "Each switch 235 assigns an IP address, SolP socket number and Fibre Channel address to each Fibre Channel device when the device performs a fabric login."]; and

storing the IP address as a symbolic name within a symbolic name field for the FC N Port [para. 0102, "The Fibre Channel and Gigabit Ethernet ports use the same encoding/decoding method (8B/10B)..."].

Latif teaches substantially all the limitation in claim 21, but fails to disclose a **plurality of** IP addresses to be associated with a Fibre Channel (FC) N_Port of the storage device. However Woodring teaches a set of N_Ports with a common alias address identifier [para. 0166] and upper layer protocol (including IP, VI) mapping [para. 0120] over FC-FS. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Woodring's teaching into Latif's device for the purpose of allowing N_Ports to be clustered by assigning IP alias addresses, thereby providing fail over/fail back capabilities among N_Ports.

Regarding claim 22, Latif further discloses wherein the method further comprises performing a registration procedure to register the symbolic name, and each communications protocol supported by the FC N_Port with a name server for the FC fabric to which the FC N Port is connected [para. 0095, "SoIP Name Server"].

Regarding claim 27, Latif discloses a computer readable medium, having stored thereon on a sequence of instructions which when executed by a processor for a storage device [115 or 120 FIG. 3], causes the storage device to perform a method comprising:

receiving input of an IP addresses to be associated with a Fibre Channel (FC) N_Port of the storage device [FIG. 11 and para. 0034, "ULP"; para. 0065, "Each switch 235 assigns an IP address, SoIP socket number and Fibre Channel address to each Fibre Channel device when the device performs a fabric login.]; and

storing the IP address as a symbolic name within a symbolic name field for the FC N Port [para. 0102, "The Fibre Channel and Gigabit Ethernet ports use the same encoding/decoding method (8B/10B)..."].

Latif teaches substantially all the limitation in claim 21, but fails to disclose a **plurality of** IP addresses to be associated with a Fibre Channel (FC) N_Port of the storage device. However Woodring teaches a set of N_Ports with a common alias address identifier [para. 0166] and upper layer protocol (including IP, VI)

mapping [para. 0120] over FC-FS. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Woodring's teaching into Latif's device for the purpose of allowing N_Ports to be clustered by assigning IP alias addresses, thereby providing fail over/fail back capabilities among N_Ports.

Regarding claim 28, Latif further discloses wherein the method further comprises performing a registration procedure to register the symbolic name, and each communications protocol supported by the FC N_Port with a name server for the FC fabric to which the FC N Port is connected [para. 0095, "SolP Name Server"].

7. Claims 23-26, 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Latif et al. (US 2003/0091037 A1, hereinafter Latif), Woodring (US 2002/0191649 A1, hereinafter Woodring), and further in view of Bessire (US 7,055,056 B2, hereinafter Bessire).

Regarding claim 23, Latif and Woodring teach substantially all the limitation in claim 22, but fails to disclose specifically about wherein the multiple IP addresses comprise a primary IP address and a backup IP address, and the registration procedure comprises a first registration operation to register the primary IP address, and a second registration operation to register the backup IP address. However, Bessire teaches assigning two IP addresses, one being its primary IP address and the other being a second IP address to each controller [col. 6, lines 3-6]. It would have been obvious to a person with ordinary skill in the art at the

time the invention was made to incorporate Bessire's teaching into Latif's and Woodring's device for the purpose of allowing N_Ports to be clustered by assigning backup IP addresses, thereby providing fail over/fail back capabilities among N_Ports.

Regarding claim 24, Bessire further teaches wherein the first registration operation and the second registration operation are the same registration operation [col. 6, lines 3-6]. See motivation in claim 23.

Regarding claim 25, Bessire further teaches wherein the method further comprises detecting a failure of a primary link between a pair of remote N_Ports, wherein one of the remote N_Ports has the backup IP address as a primary IP address [col. 5 line 61 through col. 6 line 12]. See motivation in claim 23.

Regarding claim 26, Latif and Woodring teach substantially all the limitation in claim 25, but fails to disclose specifically about wherein the second registration operation is performed after detecting the failure. However, Bessire teaches assigning two IP addresses, one being its primary IP address and the other being a second IP address to each controller [col. 6, lines 3-6]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bessire's teaching into Latif's and Woodring's device for the purpose of allowing N_Ports to be clustered by assigning backup IP addresses after detecting the failure, thereby providing fail over/fail back capabilities among N_Ports.

Regarding claim 29, Latif and Woodring teach substantially all the limitation in claim 27, but fails to disclose specifically about wherein the multiple IP addresses comprise a primary IP address and a backup IP address, and the registration procedure comprises a first registration operation to register the primary IP address, and a second registration operation to register the backup IP address. However, Bessire teaches assigning two IP addresses, one being its primary IP address and the other being a second IP address to each controller [col. 6, lines 3-6]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bessire's teaching into Latif's and Woodring's device for the purpose of allowing N_Ports to be clustered by assigning backup IP addresses, thereby providing fail over/fail back capabilities among N_Ports.

Regarding claim 30, Bessire further teaches wherein the first registration operation and the second registration operation are the same registration operation [col. 6, lines 3-6]. See motivation in claim 29.

Regarding claim 31, Bessire further teaches wherein the method further comprises detecting a failure of a primary link between a pair of remote N_Ports, wherein one of the remote N_Ports has the backup IP address as a primary IP address [col. 5 line 61 through col. 6 line 12]. See motivation in claim 29.

Regarding claim 32, Latif and Woodring teach substantially all the limitation in claim 31, but fails to disclose specifically about wherein the second registration operation is performed after detecting the failure. However, Bessire teaches

assigning two IP addresses, one being its primary IP address and the other being a second IP address to each controller [col. 6, lines 3-6]. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Bessire's teaching into Latif's and Woodring's device for the purpose of allowing N_Ports to be clustered by assigning backup IP addresses after detecting the failure, thereby providing fail over/fail back capabilities among N_Ports.

Allowable Subject Matter

8. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- 9.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Lai whose telephone number is (571) 270-3236. The examiner can normally be reached on M-F 8:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2157

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Lai
28MAR2008

/Yves Dalencourt/
Primary Examiner, Art Unit 2157